



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/578,346

05/05/2006

Kenichi Noma

062512

6645

38834 7590 11/16/2007
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

MONIKANG, GEORGE C

ART UNIT

PAPER NUMBER

2615

MAIL DATE

DELIVERY MODE

11/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/578,346

Applicant(s)

NOMA ET AL.

Examiner

George C. Monikang

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/578,346.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/5/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

With respect to claim 8, the applicant argues that the microphone is rotatably disposed at an end of body cabinet facing a direction deviating from the cover cabinet in a closed position. The rotating microphone in Miyashita (*fig. 3: 20a*) can be used in the body cabinet of the phone in Ikeda et al (*fig. 1a: 201*) to enable efficient voice transmissions for comfortable telephone conversations even when the microphone and the mouth are placed a little away from each other.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Ikeda et al, US Patent 6,957,083 B2.

Re Claim 1, Ikeda et al discloses a foldable portable terminal comprising a body cabinet and a cover cabinet openably/closably coupled to each other (*fig. 1a*); a first speaker disposed in the cover cabinet (*fig. 1a: 103*); one or more sound emitting holes 22a for passing a sound wave emitted from the first speaker (*fig. 1a: 103*), provided on an inner surface of the cover cabinet in a position opposed to a sound emitting surface of the first speaker (*fig. 1a: 103*); one or more openings provided on an inner surface of

the body cabinet in a position to be opposed to the sound emitting holes with the both cabinets closed (fig. 1a: 205); a microphone having a sound collecting surface facing the openings, disposed in the body cabinet (fig. 1a: 205); and a second speaker for emitting a sound wave toward a rear surface of the cover cabinet, disposed in the cover cabinet (fig. 1a: 106), closing means for closing the sound emitting holes in a closed state of the both cabinets, provided in the cover cabinet (fig. 1b: when the cover cabinet is in a closed state, the sound emitting holes are closed).

Re Claim 2, Ikeda et al, discloses the foldable portable terminal according to claim 1, wherein the closing means comprises detection means for detecting an open state and a closed state of the both cabinets (abstract) and a shutter mechanism for opening/closing the sound emitting holes in accordance with the detection (fig. 3: 300), the shutter mechanism comprising a shutter member supported so as to be capable of entering between opposed faces of the sound emitting surface of the first speaker and the sound emitting holes (fig. 3: 300), and a drive mechanism for reciprocating driving the shutter member in accordance with the detection (fig. 3: 400), the shutter member, with operation of the drive mechanism (fig. 3: 300 & 400), entering between the opposed faces to close the sound emitting holes in the closed state of the both cabinets (fig. 3: 400), and escaping from between the opposed faces to open the sound emitting holes in the open state of the both cabinets (fig. 3: 400).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al, US Patent 6,957,083 B2, in view of Komiyama, US Patent Pub. 2004/0180705 A1.

Re Claim 3, Ikeda et al discloses foldable portable terminal, comprising: a body/cabinet and a cover cabinet openably/closably coupled to each other (*fig. 1a*); a first speaker disposed in the cover cabinet (*fig. 1a: 103*); one or more sound emitting holes for passing a sound wave emitted from the first speaker (*fig. 1a: 103*), provided on an inner surface of the cover cabinet in a position opposed to a sound emitting surface of the first speaker (*fig. 1a: 103*); one or more openings provided on an inner surface of the body cabinet in a position to be opposed to the sound emitting holes with the both

cabinets closed (fig. 1a: 205); a microphone having a sound collecting surface facing the openings, disposed in the body cabinet (fig. 1a: 205); a second speaker for emitting a sound wave toward a rear surface of the cover cabinet (fig. 1a: 106), disposed in the cover cabinet; and closing means for closing the sound emitting holes in a closed state of the both cabinets, provided in the body cabinet (fig. 1b: when the cover cabinet is in a closed state, the sound emitting holes are closed), wherein the openings and the sound emitting holes are provided in positions to be slightly staggered in a closed state of the both cabinets (fig. 1a: 103 & 205), but fails to disclose the closing means comprises a projection formed within an inner surface area of the body cabinet in a position to face the sound emitting holes in a closed state of the both cabinets, the projection closing the sound emitting holes in the closed state of the both cabinets, and separating from the sound emitting holes with the cover cabinet opened. However, Komiyama does (fig. 6b: 10; para 0037).

Taking the combined teachings of Ikeda et al and Mori as a whole, one skilled in the art would have found it obvious to modify foldable portable terminal, comprising: a body/cabinet and a cover cabinet openably/closably coupled to each other (fig. 1a); a first speaker disposed in the cover cabinet (fig. 1a: 103); one or more sound emitting holes for passing a sound wave emitted from the first speaker (fig. 1a: 103), provided on an inner surface of the cover cabinet in a position opposed to a sound emitting surface of the first speaker (fig. 1a: 103); one or more openings provided on an inner surface of the body cabinet in a position to be opposed to the sound emitting holes with the both cabinets closed (fig. 1a: 205); a microphone having a sound collecting surface facing

the openings, disposed in the body cabinet (fig. 1a: 205); a second speaker for emitting a sound wave toward a rear surface of the cover cabinet (fig. 1a: 106), disposed in the cover cabinet; and closing means for closing the sound emitting holes in a closed state of the both cabinets, provided in the body cabinet (fig. 1b: when the cover cabinet is in a closed state, the sound emitting holes are closed), wherein the openings and the sound emitting holes are provided in positions to be slightly staggered in a closed state of the both cabinets (fig. 1a: 103 & 205) of Ikeda et al with the closing means comprises a projection formed within an inner surface area of the body cabinet in a position to face the sound emitting holes in a closed state of the both cabinets, the projection closing the sound emitting holes in the closed state of the both cabinets, and separating from the sound emitting holes with the cover cabinet opened as taught in Komiyama does (fig. 6b: 10; para 0037) so that communication can occur when the cabinets are closed.

Re Claim 4, the combined teachings of Ikeda et al and Komiyama disclose the foldable portable terminal according to claim 3, wherein the projection is formed from an elastic resin (Komiyama, para 0037).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al, US Patent 6,957,083 B2, in view of Lee, US Patent Pub. 2004/0132514 A1.

Re Claim 6, Ikeda et al discloses foldable portable terminal, comprising: a body/cabinet and a cover cabinet openably/closably coupled to each other (fig. 1a); a first speaker disposed in the cover cabinet (fig. 1a: 103); one or more sound emitting holes for passing a sound wave emitted from the first speaker (fig. 1a: 103), provided on

an inner surface of the cover cabinet in a position opposed to a sound emitting surface of the first speaker (fig. 1a: 103); one or more openings provided on an inner surface of the body cabinet in a position to be opposed to the sound emitting holes with the both cabinets closed (fig. 1a: 205); a microphone having a sound collecting surface facing the openings, disposed in the body cabinet (fig. 1a: 205); a second speaker for emitting a sound wave toward a rear surface of the cover cabinet (fig. 1a: 106), disposed in the cover cabinet; and closing means for closing the sound emitting holes in a closed state of the both cabinets, provided in the body cabinet (fig. 1b: when the cover cabinet is in a closed state, the sound emitting holes are closed), a partition wall for partitioning a first area having the first speaker disposed therein and a second area having the second speaker disposed therein, formed between these two areas inside the cover cabinet wherein the openings and the sound emitting holes are provided in positions to be slightly staggered in a closed state of the both cabinets (fig. 1a: 100), but fails to disclose wherein the partition wall is formed by a rib projecting from one of two inner walls opposed to each other inside the cover cabinet toward the other inner wall, and a cushion member intervening between an end of the rib and the other inner wall. However, Lee does (para 0030).

Taking the combined teachings of Ikeda et al and Lee, one skilled in the art would have found it obvious to modify foldable portable terminal, comprising: a body/cabinet and a cover cabinet openably/closably coupled to each other (fig. 1a); a first speaker disposed in the cover cabinet (fig. 1a: 103); one or more sound emitting holes for passing a sound wave emitted from the first speaker (fig. 1a: 103), provided on

an inner surface of the cover cabinet in a position opposed to a sound emitting surface of the first speaker (fig. 1a: 103); one or more openings provided on an inner surface of the body cabinet in a position to be opposed to the sound emitting holes with the both cabinets closed (fig. 1a: 205); a microphone having a sound collecting surface facing the openings, disposed in the body cabinet (fig. 1a: 205); a second speaker for emitting a sound wave toward a rear surface of the cover cabinet (fig. 1a: 106), disposed in the cover cabinet; and closing means for closing the sound emitting holes in a closed state of the both cabinets, provided in the body cabinet (fig. 1b: when the cover cabinet is in a closed state, the sound emitting holes are closed), a partition wall for partitioning a first area having the first speaker disposed therein and a second area having the second speaker disposed therein, formed between these two areas inside the cover cabinet wherein the openings and the sound emitting holes are provided in positions to be slightly staggered in a closed state of the both cabinets (fig. 1a: 100) of Ikeda et al with wherein the partition wall is formed by a rib projecting from one of two inner walls opposed to each other inside the cover cabinet toward the other inner wall, and a cushion member intervening between an end of the rib and the other inner wall as taught in Lee (para 0030) so that the screen will not be damaged.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al, US Patent 6,957,083 B2, in view of Sudo et al, US Patent Pub. 2005/0119023 A1.

Re Claim 7, Ikeda et al discloses foldable portable terminal, comprising: a body/cabinet and a cover cabinet openably/closably coupled to each other (fig. 1a); a

first speaker disposed in the cover cabinet (fig. 1a: 103); one or more sound emitting holes for passing a sound wave emitted from the first speaker (fig. 1a: 103), provided on an inner surface of the cover cabinet in a position opposed to a sound emitting surface of the first speaker (fig. 1a: 103); one or more openings provided on an inner surface of the body cabinet in a position to be opposed to the sound emitting holes with the both cabinets closed (fig. 1a: 205); a microphone having a sound collecting surface facing the openings, disposed in the body cabinet (fig. 1a: 205); a second speaker for emitting a sound wave toward a rear surface of the cover cabinet (fig. 1a: 106), disposed in the cover cabinet; and closing means for closing the sound emitting holes in a closed state of the both cabinets, provided in the body cabinet (fig. 1b: when the cover cabinet is in a closed state, the sound emitting holes are closed), a partition wall for partitioning a first area having the first speaker disposed therein and a second area having the second speaker disposed therein, formed between these two areas inside the cover cabinet wherein the openings and the sound emitting holes are provided in positions to be slightly staggered in a closed state of the both cabinets (fig. 1a: 100) but fails to disclose wherein the cover cabinet comprises an inner cabinet half (Sudo et al, para 0105) forming the inner surface of the cover cabinet and a rear cabinet half forming the rear surface of the cover cabinet (Sudo et al, para 0105), joined to each other (Sudo et al, para 0105), and the partition wall is formed by a first projection projecting from the inner cabinet half, a second projection projecting from the rear cabinet half (Sudo et al, para 0105) and being opposed to the first projection (Sudo et al, para 0105), and a seal member intervening between the both projections (Sudo et al, para 0105), wherein the

first and second projections are in close contact with the seal member. However, Sudo et al does.

Taking the combined teachings of Ikeda et al and Sudo et al as a whole, one skilled in the art would have found it obvious to modify the foldable portable terminal, comprising: a body/cabinet and a cover cabinet openably/closably coupled to each other (fig. 1a); a first speaker disposed in the cover cabinet (fig. 1a: 103); one or more sound emitting holes for passing a sound wave emitted from the first speaker (fig. 1a: 103), provided on an inner surface of the cover cabinet in a position opposed to a sound emitting surface of the first speaker (fig. 1a: 103); one or more openings provided on an inner surface of the body cabinet in a position to be opposed to the sound emitting holes with the both cabinets closed (fig. 1a: 205); a microphone having a sound collecting surface facing the openings, disposed in the body cabinet (fig. 1a: 205); a second speaker for emitting a sound wave toward a rear surface of the cover cabinet (fig. 1a: 106), disposed in the cover cabinet; and closing means for closing the sound emitting holes in a closed state of the both cabinets, provided in the body cabinet (fig. 1b: when the cover cabinet is in a closed state, the sound emitting holes are closed), a partition wall for partitioning a first area having the first speaker disposed therein and a second area having the second speaker disposed therein, formed between these two areas inside the cover cabinet wherein the openings and the sound emitting holes are provided in positions to be slightly staggered in a closed state of the both cabinets (fig. 1a: 100) with wherein the cover cabinet comprises an inner cabinet half (Sudo et al, para 0105) forming the inner surface of the cover cabinet and a rear cabinet half

forming the rear surface of the cover cabinet (Sudo et al, para 0105), joined to each other (Sudo et al, para 0105), and the partition wall is formed by a first projection projecting from the inner cabinet half, a second projection projecting from the rear cabinet half (Sudo et al, para 0105) and being opposed to the first projection (Sudo et al, para 0105), and a seal member intervening between the both projections (Sudo et al, para 0105), wherein the first and second projections are in close contact with the seal member as taught in Sudo et al so the foldable terminal could be more dynamic.

Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al, US Patent 6,957,083 B2, in view of Miyashita, US Patent 6,731,912 B1.

Re Claim 8, Ikeda et al discloses a foldable portable terminal comprising a body cabinet and a cover cabinet openably/closably coupled to each other (figs. 1a & 1b); a microphone (fig. 1a: 205) and a first speaker (fig. 1a: 103) disposed on inner surfaces of the body cabinet and the cover cabinet, respectively, in positions opposed to each other with the both cabinets closed (figs. 1a & 1b); and a second speaker disposed on a rear surface of the cover cabinet (fig. 1b: 106), the microphone capable of facing a direction deviating from the cover cabinet in a closed position with the both cabinets closed (fig. 1a: 205); but fails to disclose wherein the microphone is rotatably disposed at an end of the body cabinet. However, Miyashita does (fig. 3: 20a).

Taking the combined teachings of Ikeda et al and Miyashita, one skilled in the art would have found it obvious to modify the foldable portable terminal comprising a body

cabinet and a cover cabinet openably/closably coupled to each other (figs. 1a & 1b); a microphone (fig. 1a: 205) and a first speaker (fig. 1a: 103) disposed on inner surfaces of the body cabinet and the cover cabinet, respectively, in positions opposed to each other with the both cabinets closed (figs. 1a & 1b); and a second speaker disposed on a rear surface of the cover cabinet (fig. 1b: 106), the microphone capable of facing a direction deviating from the cover cabinet in a closed position with the both cabinets closed (fig. 1a: 205); with wherein the microphone is rotatably disposed at an end of the body cabinet as taught in Miyashita (fig. 3: 20a) to enable efficient voice transmissions for comfortable telephone conversations even when the microphone and the mouth are placed a little away from each other.

Re Claim 9, the combined teachings of Ikeda et al and Miyashita disclose the foldable portable terminal according to claim 8, wherein it is possible to set a first call mode for causing the microphone (Miyashita, fig. 3: 20a) and the first speaker (Ikeda et al, fig. 1a: 103) to function with the both cabinets opened and a second call mode for causing the microphone (Miyashita, fig. 3: 20a) and the second speaker (Ikeda et al, fig. 1a: 106) to function with the both cabinets closed, and the microphone is set in the first call mode to a first rotational posture where it faces the inner surface side of the body cabinet (Miyashita, fig. 3: 20a), and set in the second call mode to a second rotational posture where it faces a direction deviating from the cover cabinet in a closed position (Miyashita, fig. 3: 20a).

Re Claim 10, the combined teachings of Ikeda et al and Miyashita discloses the foldable portable terminal according to claim 9, wherein the microphone is incorporated

in a transmission unit rotatably disposed on an end of the cover cabinet (col. 5, lines 46-48), and the transmission unit comprises a sound collecting hole for introducing a sound wave toward the microphone (col. 5, lines 1-6).

Re Claim 11, the combined teachings of Ikeda et al and Miyashita disclose the foldable portable terminal according to claim 10, wherein the transmission unit is rotationally driven by manual operation (col. 7, lines 21-25).

Re Claim 12, the combined teachings of Ikeda et al and Miyashita disclose the foldable portable terminal according to claim 10, wherein the transmission unit is rotationally driven by a reciprocation drive device (col. 7, lines 34-43).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

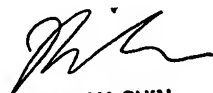
Application/Control Number:
10/578,346
Art Unit: 2615

Page 15

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George Monikang

11/12/2007


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2000
11/13/07